

SABNAM PANDIT

sabnampandit@gmail.com ♦ LinkedIn ♦ GitHub

EDUCATION

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- Masters in Big Data Analytics**, San Diego State University, USA **GPA: 4.0/4.0** 2023 - 2025
- *Courses: ML, DBMS, Big Data Analytics, Data Visualization, Deep Learning for NLP, Time Series Analysis*
- Masters in Business Administration - IT**, Tribhuvan University, Nepal **GPA: 3.73/4.0** 2019 - 2021
- Bachelors in Computer Science and Engineering**, Visvesvaraya Technological University, India 2014 - 2018
- *Courses: Software Engineering, Data Structure and Algorithms, OOP, Database Management, Mathematics, Statistics*

EXPERIENCE

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- Research Assistant** Jan 2024 - Present
San Diego State University. *Advisor: Dr. Hajar Homayouni, San Diego, CA*
- Authored a paper titled "Large Language Models for Similarity and Contradiction Analysis in Cardiovascular Research"
 - Utilized advanced language models like LLama 8B Instruct with in-context learning to extract facts, identify leading topics, and analyze similarities, contradictions, and connections across research abstracts.
 - Applied cosine similarity analysis to identify coherence within leading topics in cardiovascular research.
 - Currently working on pattern analysis in audio data embeddings:
 - Audio files were transformed into vector embeddings using animal2vec transformer model(model by Dr. Julian Schäfer-Zimmermann).
 - We are investigating patterns in the embeddings with the help of unsupervised clustering algorithm to derive meaningful insights and identify trends within the dataset.
- Teaching Assistant** Sep 2024 - Dec 2024
San Diego State University *San Diego, CA*
- **TA for the course "Advanced Programming Language"** Held office hours, conducted exams
 - **Grading Assistant for the course "Principles and Techniques of Data Science"**
- Quality Assurance Engineer** July 2021 - Jun 2022
Focus One Payment Solutions *Kathmandu, Nepal*
- Tested digital payment solutions for reliability and performance, implemented automation testing of API and web portal to enhance efficiency and accuracy, and authored clear, reproducible test case documentation.
 - Served as Project Coordinator, liaising between internal teams, third-party developers, and partners like IMS Software to integrate products into platforms used in department stores and malls.

TECHNICAL SKILLS

Programming Languages: Python, R, JavaScript, C, C++
Big Data & Machine Learning: Transformers, Convolutional Neural Networks, Keras, Recurrent Neural Network, LSTM, NumPy, Pandas, Scikit-learn, MongoDB, Data science pipeline (cleaning, wrangling, visualization, modeling)
Data Science & Misc. Technologies: PyTorch, Git, Conda, Tableau, Excel

PROJECTS

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- Time Series Forecast of Unemployment Rates in the United States:** Analyzed historical unemployment data from 1947–2022 using ARIMA and SARIMA models to identify patterns, seasonality, and trends at state and national levels, including gender-specific analyses. Focused on California's unemployment trends and the economic impact of events like COVID-19. Developed robust models for accurate forecasting to aid policymakers and businesses in decision-making. Tools: R. ([Link](#))
- Image Caption generation with custom music recommendation:** Trained CNN+LSTM model end to end in Flickr dataset to generate captions based on image. The captions were used to create engaging, Instagram- friendly text and recommend music using text analytics to match the emotional tone of the image. Built and deployed an interactive Streamlit-based UI, allowing seamless local testing and demonstration. ([Link](#))
- Supply and Demand of the Electric Vehicles (EV) charging stations in relation to EV population in Washington State:** Analyzed EV charging station distribution against EV population to identify neighborhoods with higher demand and assess if it is met. We used machine learning regression models (random forest, support vector, gradient boosting) to predict charging stations using EV count and demographic information, and tools such as ArcGIS and Tableau for visualization. ([Link](#))

AWARDS

- CAHSI Travel Scholarship to attend GMiS Conference 2024
- Academic Excellence Award in MBA-IT